The CRISLER HCG PROTOCOL - Part Deux

In the paper "My Current Best Thoughts on How to Administer TRT for Men", first published in The American Academy of Anti-Aging Medicine (A4M) 2004/5 Anti-Aging Clinical Protocols, I introduced a new protocol where small doses of Human Chorionic Gonadotropin (HCG) are regularly added to traditional TRT (either testosterone shots, or daily cream/gel). To my pride, this has come to be known as "The Crisler Method" (a phrase first coined by my old pal Dr. Ronald Rothenberg, who is, in my professional opinion, the best all-around Age Management Medicine physician on the planet). At that time (and, sadly, far too often still) physicians prescribed HCG at doses of 1500-5000iu per shot. We now know this not only is far more than is necessary, and wastes money, doing so brings unnecessary deleterious side effects.

The reasons and benefits of my protocols are as follows, along with some new improvements I wish to share:

Any physician who administers TRT will, within the first few months of doing so, field complaints from their patients about experiencing troubling testicular atrophy. Irrespective of the numerous and abundant benefits of TRT, men never enjoy seeing their genitals shrinking! Testicular atrophy occurs because the body recognizes it no longer needs to produce Testosterone; as we have thus seized control of the Hypothalamus-Pituitary-Testicular-Axis (HPTA). The pituitary gland then shuts down with respect to introducing Luteinizing Hormone (LH) into the bloodstream (an important perspective in what will follow in this report) secondary to this HPTA suppression. Under TRT-naïve conditions, the LH stimulates the Leydig cells (about 20% of the mass of the testicles) to make Testosterone.

Of note, the rest (about 80%) of the mass of the testicle consists of the Sertoli cells, whose task it is to produce sperm; in an immediate environment of high Testosterone concentration. This is also why HCG seems to have little benefit with respect to maintaining testicular size in some cases. THAT, and the fact every-body is different…why hormonal interventions must be individually customized.

Why do we use HCG? It is well known that HCG—a Luteinizing Hormone (LH) mimic—can effectively, and dramatically, restore the testicles to previous form and function. It accomplishes this due to shared moiety (molecular shape and electrical charge) between the alpha subunits of both hormones. In other words, HCG looks like LH to the LH receptors on the Leydig cells, and so stimulates them when they meet.

After having a wonderful conversation with Carl Lanore over dinner, this would be a good time to clear up a message board myth: HCG does NOT stimulate thyroid function. Making such a claim is a gross misguided extrapolation of previous studies. And I have been prescribing HCG at "The HCG Diet" dosages for a decade and a half; no one has had their hypothalamus "reset".

So, HCG, more or less, satisfies an aesthetic consideration which should not be ignored. Now let's delve into the pharmacodynamics (how a given hormone performs in the body) of the TRT medications. For those employing injectable testosterone cypionate, the cypionate ester provides

a 5-8 day half-life, depending upon the specific metabolism (more factors than we will probably ever know), activity level, and overall health of the patient. Half-life is defined as the time it takes for the body to break down and/or excrete a given drug. It is now well-established that appropriate TRT using IM injections must be dosed at no longer than weekly intervals, in order to avoid seating the patient on a hormonal, and emotional, roller coaster. Adding in some HCG toward the end of the weekly "cycle" (a word I discourage with respect to TRT medicine, due to the ignorance unfortunately prevalent, in association with anabolic steroid use) compensates for the drop in serum androgen levels by the half-life of the cypionate ester. Certainly the body thrives on regularity, and supplementing the TRT with endogenous testosterone production at just the right time—without inappropriately raising androgen OR estrogen (more on that later)—approximates the excellent performance stability of transdermal testosterone delivery systems for those who, for whatever reason or reasons, prefer injections.

But there's another metabolic reason to employ this protocol. The P450 Side Chain Cleavage enzyme, which converts Cholesterol into Pregnenolone at the initiation of all three hormonal metabolic pathways CHOL serves as precursor (the sex hormones, glucocorticoids and mineralcorticoids), is actively stimulated, or depressed, by LH concentrations. It is intuitively consistent that during conditions of lowered testosterone levels, commensurate increases in LH production would serve to stimulate this conversion from CHOL into these pathways, thereby feeding more raw materiel for increased hormone production. And vice versa. Thus the addition of HCG (which also stimulates the P450scc enzyme) helps restore a more natural balance of the hormones within this pathway in patients who are entirely, or even partially, HPTA-suppressed. We think that is one of the reasons our patients do better.

I learned this while treating PED bodybuilders, in 2002. After finding a page from my medical school Endocrinology class (you know: where we were taught Testosterone causes prostate cancer and heart disease), covered with my hasty chicken scratches, showing where both LH and ACTH enhances the flow of the CHOL "bricks" into these subsequent hormones, by stimulating the P450scc enzyme, it came to me. That these two stimulatory hormones would provide for their own purpose is—as is nearly always true in medicine—entirely intuitive. So I began prescribing regular, small doses of HCG. To a man, they reported they felt better, recovered faster, and avoided that edgy, burned out feeling you get about a month into a good cycle.

Much sport was made of Yours Truly at the time…but I knew it worked, because so many of my patients told me so. A couple years later a study came out which showed, in HPTA-suppressed men, the same dose produced ITT (INTRA-Testicular Testosterone) levels nearly equal to endogenous (normal) production. Given the sample technique, my next question involved what it took to get these men to volunteer for the study. Especially when compared to the study where T gel was applied to a man's chest, then vigorously rubbed against a woman's naked upper torso. The conclusion there produced results which showed increases in the female's subsequent serum Testosterone level; and, no doubt, a longer--and more eager--line of volunteers.

But the REAL reason to take HCG is there are LH receptors all over the body. They would not be there were there not good reasons for them. Indeed, even the StAR receptors (note the humor in the redundancy there), which bring fuel across from the outer to the inner membranes of the mitochondria—the intracellular powerplants which are actually, from an evolutionary standpoint,

a chimera of a bacteri and a plant--need it. There are also LH receptors in the more peripheral areas of the brain; of note, the places where emotion, and even libido, are generated. When we introduce TRT, all these receptors are now starved for the LH they are used to seeing.

The subjective ("feeling") benefits of HCG are why I usually recommend my patients take their HCG in the morning.

It is important that no more than 500IU of HCG be administered on any given day. There is only just so much stimulation possible, with a given number of Leydig cells (although the LH receptor density may fluctuate; this is called "upregulation", "downregulation", and "LH suppression") and exceeding that not only is wasteful, doing so has important negative consequences. Higher doses also overly stimulates testicular aromatase (the enzyme which converts Testosterone into Estrogen), which inappropriately raises estrogen levels, and brings on the detrimental effects of same. It also causes this Leydig cell desensitization to LH, and we are therefore inducing secondary hypogonadism, while perhaps treating primary hypogonadism. Remember, we are merely replacing that which is lost to HPTA inhibition.

So, while HCG-induced testosterone production is limited, not only will Estrogen continue to rise, you will also see an untoward increase in Progesterone, if you give too much HCG. I still have the paper napkin with the graph the legendary Dr. Eugene Shippen—to my mind, the finest mind in the history of TRT medicine--drew while we were having lunch together during an A4M convention, circa 2005. PROG is a highly feminizing hormone in males; in contrast to females, where it opposes Estrogen. PROG elevations are associated with sexual dysfunction in men; even though PROG will elevate at first upon introduction of HCG, due to the increase in P450scc enzyme activity, as the pathways reawaken.

This might be a good time to mention there is no LH desensitization (a question I have answered many times on the forums, and for patients) when HCG is provided at physiologic ("normal") concentrations. When you think about it, if it did, we would ALL be desensitized. Please help everyone out, and share this with them, every time this topic comes up on the Boards.

So how shall we employ HCG into your particular TRT regimen? The answer lies in which form of Testosterone you take, how many times per week you take it, SHBG (the centerpiece of every proper sex hormone evaluation) level, and, frankly, how much you want to have to fiddle around with it. In other words, lifestyle. Physicians must always consider patient compliance—and negotiate when necessary.

In my previous report I recommended 500iu of HCG twice per week for TRT patients, on weekly IM shots, taken each of the two days before the test cyp injection. That is the original "Crisler Method". Now, with more than a decade more experience, and vast evolution in TRT medicine protocols, we have even better ways to "tune" you up.

By the way, all now administer their HCG subcutaneously, and dosage adjusted as necessary. No one needs to inject HCG intramuscularly any longer. Or their test cyp for that matter, either.

Those TRT patients who prefer a transdermal testosterone, or even testosterone pellets (although

I am not in favor of same), take their HCG from every day, to every third day. They then needn't concern themselves with diminishing serum androgen levels from their testosterone delivery system, due to daily consistent Testosterone delivery.

This might be a good time to mention the best TRT protocol ever is a daily T gel, daily HCG shot, DHEA, and estrogen control (where necessary). I hasten to add that would be for those who can use a T gel.

While HCG, as sole TRT, is still considered treatment of choice for hypogonadotrophic hypogonadism by many, my experience is that it just does not bring the same subjective benefits as pure testosterone delivery systems—even when similar serum androgen levels are produced from comparable baseline values. Why, I do not know--a feeling I have every single day.

Since our goal in "Backfilling the Pathways" (subject of another report) is to produce as normal a hormonal landscape as possible, while simultaneously seizing control of the HPTA, providing a physiologic dose of the LH-mimic HCG is key. That means small, daily doses. Second best is a double daily dose, QOD (every other day). Third best is a triple dose Q3D (every third day). You get the pattern. I usually start them off at 100-150iu QD, based upon previous Medical History and, frankly, how I feel at the time about their case.

If you are taking test cyp shots twice per week, and want to take HCG similarly, take the HCG (250-500iu) the day before the test cyp shot, each time. We don't want to unnecessarily stack the HCG on top of the test cyp shot. If you are doing QOD or even daily test cyp shots (some actually do), it won't matter. If you would like to combine the two in the same syringe, please let me know how that works for you. Still gathering data on that. But if you do, load the test cyp into the syringe first, then the HCG. The fluid dynamics are more in your favor that way.

It's not likely your medical insurance will cover your HCG. They keep trying to call it a fertility drug—and it has been shown to maintain fertility in men on TRT—in order to deny coverage. By the way, there are no promises offered with respect to fertility in ANY area of medicine. But even without HCG on board with TRT they have a name for guys who try to use Testosterone as birth control: "Dad".

Since you must then pay for your own HCG, for gosh sakes don't settle for the top buck conventional pharmacies charge. Have your doctor provide a prescription to a good compounding pharmacy. All the ones I know will be more than happy to facilitate a relationship with your doctor, if he/she does not know how to do that.

No doubt, there are some men for whom HCG does no good; even those who are bothered by it. Why, I do not know; other than the fact there is someone out there who reacts badly to everything that is out there. You will just have to try it for yourself, and adjust as needed.

But overwhelmingly, adding HCG to any TRT regimen stabilizes serum androgen levels, prevents testicular atrophy, helps rebalance expression of other hormones, and brings reports of greatly increased sense of well-being and libido. My patients absolutely love it. As time goes on, we are coming to appreciate HCG as a much more powerful--and wonderful--hormone than

previously given credit.